Air Quality Permit

Issued To: Bitter Creek Pipelines, L.L.C.
Connor 33 Battery
Safety and Environmental Affairs
WBI Holdings, Inc.
P.O. Box 131
Glendive, MT 59330

Permit #3140-02
Administrative Amendment
Request Received: 3/21/03
Department Decision on Administrative Amendment Issued: 5/2/03
Permit Final: 5/20/03
AFS Number: 003-0016

An air quality permit, with conditions, is hereby granted to Bitter Creek Pipelines, L.L.C. – Connor 33 Battery (Bitter Creek) natural gas compressor station, pursuant to Sections 75-2-204 and 211, Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq*., as amended, for the following:

Section I: Permitted Facilities

A. Plant Location:

The Connor 33 Battery natural gas compressor station is located approximately 1¼ miles southeast of Decker, Montana. The legal description of the site location is the SW¼ of Section 33, Township 9 South, Range 40 East, Big Horn County, Montana. A complete list of the permitted equipment can be found in the Section I.A of the permit analysis.

B. Current Permit Action:

On March 21, 2003, the Department of Environmental Quality (Department) received a letter from WBI Holdings, Inc. (WBI) on behalf of Bitter Creek Pipelines, LLC. Bitter Creek proposed to install a 400 Horsepower (hp) Waukesha F18 GL natural gas fired reciprocating internal combustion engine to the Connor 33 Battery Compressor Station.

The current permit action adds the Waukesha internal combustion engine to the Connor 33 Battery Compressor Station as a de minimis change under the provisions of ARM 17.8.745(1). In addition, Permit # 3140-02 was updated to reflect current Department permit format and permit language.

Section II: Limitations and Conditions

A. Emission Limitations and Control Requirements

1. Emissions from each of the 400-hp Waukesha natural gas compressor engines #1, #2, #3, and #4 shall be controlled with the use of lean-burn engine technology. Emissions from each unit shall not exceed the following (ARM 17.8.752):

NO_x	1.76 lb/hr
CO	2.65 lb/hr
VOC	0.88 lb/hr

2. Bitter Creek shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

3. Bitter Creek shall not cause or authorize emissions to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

4. Bitter Creek shall treat all unpaved portions of the access roads, parking lots, and general plant area with fresh water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.3 (ARM 17.8.749).

B. Testing Requirements

1. Bitter Creek shall test each of the Waukesha natural gas compressor engines (engine #1, #2, #3, and #4) for NO_x and CO, concurrently, and demonstrate compliance with the NO_x and CO emission limits contained in Section II.A.1. Testing shall be conducted within 180 days of initial start-up of each engine and continue on an every-4-year basis or according to another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105 and 17.8.749).

2. All source tests shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

3. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. Bitter Creek shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

   Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used for calculating operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. Bitter Creek shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit.

   The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

3. All records compiled in accordance with this permit shall be maintained by Bitter Creek as a permanent business record for at least 5 years following the date of the measurement, shall be submitted to the Department upon request, and shall be available at the plant site for inspection by the Department (ARM 17.8.749).

Section III. General Conditions

A. Inspection – Bitter Creek shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver - The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Bitter Creek fails to appeal as indicated below.

C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving Bitter Creek of the responsibility for complying with any applicable federal or Montana statute, rule or standard except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).

D. Enforcement - Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401, *et seq.*, MCA.

E. Appeals - Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The Department's decision on the application is not final unless 15 days have elapsed and there is no request for a hearing under this section. The filing of a request for a hearing postpones the effective date of the Department's decision until the conclusion of the hearing and issuance of a final decision by the Board.

F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.

G. Permit Fees - Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Bitter Creek may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Construction Commencement - Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762).

Permit Analysis
Bitter Creek Pipelines, L.L.C.
Connor 33 Battery
Permit #3140-02

I. Introduction/Process Description

A. Permitted Equipment and Facilities

The Bitter Creek Pipelines, L.L.C. (Bitter Creek) facility includes four 400-hp Waukesha natural gas compressor engines (engine #1, #2, #3, and #4). Emissions from each of the 400-hp Waukesha natural gas compressor engines shall be controlled with the use of "lean-burn" technology provided by Waukesha/Dresser, the manufacturer of the engine.

B. Source Description

Bitter Creek owns and operates a natural gas compressor station located in the SW¼ of Section 33, Township 9 South, Range 40 East, in Big Horn County, Montana. The facility is known as Connor 33 Battery.

The main purpose of this facility is to gather natural gas in the field (wells) and transfer the gas, via flow-lines, to the meter-house, where it is again transferred to the compressor station. From the compressor station the gas is metered and sent to central treating and compression for further processing.

C. Permit History

On February 8, 2001, Redstone Gas Partners, L.L.C., (Redstone) was issued air quality Permit **#3140-00** for a compressor station and associated equipment. The compressor station is located approximately 1¼ miles southeast of Decker, Montana. The legal description of the site location is the SW¼ of Section 33, Township 9 South, Range 40 East, Big Horn County, Montana.

On April 5, 2001, Redstone submitted a request to transfer ownership of Permit #3140-00 from Redstone to Bitter Creek. Permit **#3140-01** replaced Permit #3140-00.

D. Current Permit Action

On March 21, the Department of Environmental Quality (Department) received a letter from WBI Holdings, Inc. (WBI) on behalf of Bitter Creek. Bitter Creek proposed to install a 400 Horsepower (hp) Waukesha F18 GL natural gas fired reciprocating internal combustion engine to the Connor 33 Battery Compressor Station.

The current permit action adds the Waukesha internal combustion engine to the Connor 33 Battery Compressor Station under the provisions of ARM 17.8.745(1). In addition, Permit # 3140-02 was updated to reflect current Department permit format and permit language. Permit **#3140-02** will replace Permit #3140-01.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for the location of any applicable rules or regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 - General Provisions, including, but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., Montana Code Annotated (MCA).

   Bitter Creek shall comply with all requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means which, without resulting in a reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 - Ambient Air Quality, including, but not limited to:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide

Bitter Creek shall maintain compliance with all applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 - Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged to an outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater

averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Bitter Creek shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.

3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule

4. ARM 17.8.310 Particulate Matter, Industrial Process. This section requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.

5. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS). Bitter Creek, Connor 33 Battery, is not an NSPS affected source because it does not meet the definition of a natural gas processing plant as defined in 40 CFR Part 60, Subpart KKK, Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants.

D. ARM 17.8, Subchapter 5 - Air Quality Permit Application, Operation and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. Bitter Creek shall submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. The current permitting action is considered an administrative action; therefore, an application fee was not required.

2. ARM 17.8.505 When Permit Required - Exclusions. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. This operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

   An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that pro-rate the required fee amount.

E. ARM 17.8, Subchapter 7 - Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits - When Required. This rule requires a facility to obtain an air quality permit or permit alteration if they construct, alter, or use an air contaminant source that has the potential to emit more than 25 tons per

year of any pollutant. Bitter Creek has the potential to emit more than 25 tons per year of NO_x and CO; therefore, a permit is required.

3. ARM 17.8.744 Montana Air Quality Permits – General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits – Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that are not subject to the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units – Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration or use of a source. Bitter Creek was not required to submit a permit application because the current permit action is considered an administrative amendment. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Bitter Creek was not required to submit a permit application because the current permit action is considered an administrative amendment. Therefore, publication was not required.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the permitted source.

9. ARM 17.8.756 Compliance with Other Statutes and Rules. This rule states that nothing in the permit shall be construed as relieving Bitter Creek of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

11. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or and applicable requirement contained in the Montana State Implementation Plan (SIP).

12. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be modified for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase in emissions because of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, subchapters 8, 9, and 10.

13. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 - Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

   This facility is not a major stationary source since this facility is not a listed source and the facility's potential to emit (PTE) is below 250 tons per year of any pollutant (excluding fugitive emissions).

G. ARM 17.8, Subchapter 12 - Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:

   a. PTE> 100 tons/year of any pollutant;

   b. PTE > 10 tons/year of any one Hazardous Air Pollutant (HAP), PTE> 25 tons/year of a combination of all HAP's, or lesser quantity as the Department may establish by rule; or

   c. PTE > 70 tons/year of PM_{10} in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1)Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #3140-02 for Bitter Creek, the following conclusions were made.

   a. The facility's PTE is less than 100 tons/year for any pollutant.

b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year of all HAPs.

c. This source is not located in a serious PM_{10} nonattainment area.

d. This facility is not subject to any current NSPS.

e. This facility is not subject to any current NESHAP standards.

f. This source is not a Title IV affected source nor a solid waste combustion unit.

g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that Bitter Creek (Permit #3140-02) is a minor source of emissions as defined under Title V.

III. BACT Analysis

A BACT determination is required for each new or altered source. Bitter Creek shall install on the new or altered source the maximum air pollution control capability which is technically practicable and economically feasible, except that BACT shall be utilized. However, the current permit action was conducted in accordance with ARM 17.8.745(1); therefore, a BACT analysis is not required.

IV. Emission Inventory

	Emissions in Tons/Year				
Source	PM-10	NO_x	CO	VOC	SO_x
Waukesha Engine #1 (400 bhp)	0.14	7.73	11.59	3.86	0.01
Waukesha Engine #2 (400 bhp)	0.14	7.73	11.59	3.86	0.01
Waukesha Engine #3 (400 bhp)	0.14	7.73	11.59	3.86	0.01
Waukesha Engine #4 (400 bhp)	0.14	7.73	11.59	3.86	0.01
Totals	0.56	30.92	46.36	15.44	0.04

* A complete emission inventory for Permit #3140-02 is on file with the Department.

(SOURCE #01)
Waukesha Natural Gas Compressor Engine #1 (400 bhp)

Brake Horse Power = 400 bhp
Hours of Operation = 8,760 hr/yr
Max Fuel Combustion Rate = 2.86 MMBtu/hr
Fuel Heating Value = 950 Btu/SCF or 0.0011 MMSCF/MMBtu

PM-10 Emissions
Emission Factor: 10.0 lb/MMSCF {FIRE, PC Version, 1/95, 2-02-002-02}
Calculations: 10.0 lb/MMSCF * 0.001 MMSCF/MMBtu * 2.86 MMBtu/hr = 0.03 lb/hr
0.03 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.14 ton/yr

NO_x Emissions
Emission Factor: 2.00 g/bhp-hr {BACT Determination}
Calculations: 2.00 g/bhp-hr * 400 bhp * 0.002205 lb/gram = 1.76 lb/hr
1.76 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 7.73 ton/yr

CO Emissions

Emission Factor:	3.00 g/bhp-hr {BACT Determination}
Calculations:	3.00 g/bhp-hr * 400 bhp * 0.002205 lb/gram = 2.65 lb/hr
	2.65 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 11.59 ton/yr

VOC Emissions

Emission Factor:	1.00 g/bhp-hr {BACT Determination}
Calculations:	1.00 g/bhp-hr * 400 bhp * 0.002205 lb/gram = 0.88 lb/hr
	0.88 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 3.86 ton/yr

SO_x Emissions

Emission Factor:	0.60 lb/MMSCF {FIRE, PC Version, 1/95, 2-02-002-02}
Calculations:	0.60 lb/MMSCF * 0.001 MMSCF/MMBtu * 2.83 MMBtu/hr = 0.002 lb/hr
	0.002 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.01 ton/yr

(SOURCE #02)

Waukesha Natural Gas Compressor Engine #2 (400 bhp)

Brake Horse Power:	400 bhp
Hours of Operation:	8,760 hr/yr
Max Fuel Combustion Rate:	2.86 MMBtu/hr
Fuel Heating Value:	950 Btu/SCF or 0.0011 MMSCF/MMBtu

PM-10 Emissions

Emission Factor:	10.0 lb/MMSCF {FIRE, PC Version, 1/95, 2-02-002-02}
Calculations:	10.0 lb/MMSCF * 0.001 MMSCF/MMBtu * 2.86 MMBtu/hr = 0.03 lb/hr
	0.03 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.14 ton/yr

NO_x Emissions

Emission Factor:	2.00 g/bhp-hr {BACT Determination}
Calculations:	2.00 g/bhp-hr * 400 bhp * 0.002205 lb/gram = 1.76 lb/hr
	1.76 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 7.73 ton/yr

CO Emissions

Emission Factor:	3.00 grams/bhp-hr {BACT Determination}
Calculations:	3.00 grams/bhp-hr * 400 bhp * 0.002205 lb/gram = 2.65 lb/hr
	2.65 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 11.59 tons/yr

VOC Emissions

Emission Factor:	1.00 g/bhp-hr {BACT Determination}
Calculations:	1.00 g/bhp-hr * 400 bhp * 0.002205 lb/gram = 0.88 lb/hr
	0.88 lb/hr * 8760 hr/yr * 0.0005 tons/lb = 3.86 ton/yr

SO_x Emissions

Emission Factor:	0.60 lb/MMSCF {FIRE, PC Version, 1/95, 2-02-002-02}
Calculations:	0.60 lb/MMSCF * 0.001 MMSCF/MMBtu * 2.83 MMBtu/hr = 0.002 lb/hr
	0.002 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.01 ton/yr

(SOURCE #03)

Waukesha Natural Gas Compressor Engine #3 (400 bhp)

Brake Horse Power:	400 bhp
Hours of Operation:	8,760 hr/yr
Max Fuel Combustion Rate:	2.86 MMBtu/hr
Fuel Heating Value:	950 Btu/SCF or 0.0011 MMSCF/MMBtu

PM-10 Emissions

Emission Factor:	10.0 lb/MMSCF {FIRE, PC Version, 1/95, 2-02-002-02}
Calculations:	10.0 lb/MMSCF * 0.001 MMSCF/MMBtu * 2.86 MMBtu/hr = 0.03 lb/hr
	0.03 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.14 ton/yr

NO_x Emissions

Emission Factor:	2.00 g/bhp-hr {BACT Determination}
Calculations:	2.00 g/bhp-hr * 400 bhp * 0.002205 lb/gram = 1.76 lb/hr
	1.76 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 7.73 ton/yr

CO Emissions

Emission Factor:	3.00 g/bhp-hr	{BACT Determination}
Calculations:	3.00 g/bhp-hr * 400 bhp * 0.002205 lb/gram = 2.65 lb/hr	
	2.65 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 11.59 ton/yr	

VOC Emissions

Emission Factor:	1.00 g/bhp-hr	{BACT Determination}
Calculations:	1.00 g/bhp-hr * 400 bhp * 0.002205 lb/gram = 0.88 lb/hr	
	0.88 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 3.86 ton/yr	

SO_x Emissions

Emission Factor:	0.60 lb/MMSCF	{FIRE, PC Version, 1/95, 2-02-002-02}
Calculations:	0.60 lb/MMSCF * 0.001 MMSCF/MMBtu * 2.83 MMBtu/hr = 0.002 lb/hr	
	0.002 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.01 ton/yr	

(SOURCE #04)
Waukesha Natural Gas Compressor Engine #4 (400 bhp)

Brake Horse Power:	400 bhp
Hours of Operation:	8,760 hr/yr
Max Fuel Combustion Rate:	2.86 MMBtu/hr
Fuel Heating Value:	950 Btu/SCF or 0.0011 MMSCF/MMBtu

PM-10 Emissions

Emission Factor:	10.0 lb/MMSCF	{FIRE, PC Version, 1/95, 2-02-002-02}
Calculations:	10.0 lb/MMSCF * 0.001 MMSCF/MMBtu * 2.86 MMBtu/hr = 0.03 lb/hr	
	0.03 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.14 ton/yr	

NO_x Emissions

Emission Factor:	2.00 g/bhp-hr	{BACT Determination}
Calculations:	2.00 g/bhp-hr * 400 bhp * 0.002205 lb/gram = 1.76 lb/hr	
	1.76 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 7.73 ton/yr	

CO Emissions

Emission Factor:	3.00 g/bhp-hr	{BACT Determination}
Calculations:	3.00 g/bhp-hr * 400 bhp * 0.002205 lb/gram = 2.65 lb/hr	
	2.65 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 11.59 ton/yr	

CO Emissions

Emission Factor:	3.00 g/bhp-hr	{BACT Determination}
Calculations:	3.00 g/bhp-hr * 400 bhp * 0.002205 lb/gram = 2.65 lb/hr	
	2.65 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 11.59 ton/yr	

VOC Emissions

Emission Factor:	1.00 g/bhp-hr	{BACT Determination}
Calculations:	1.00 g/bhp-hr * 400 bhp * 0.002205 lb/gram = 0.88 lb/hr	
	0.88 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 3.86 ton/yr	

SO_x Emissions

Emission Factor:	0.60 lb/MMSCF	{FIRE, PC Version, 1/95, 2-02-002-02}
Calculations:	0.60 lb/MMSCF * 0.001 MMSCF/MMBtu * 2.83 MMBtu/hr = 0.002 lb/hr	

V. Existing Air Quality

The existing air quality of the area is expected to be in compliance with all state and federal requirements.

VI. Ambient Air Impact Analysis

The Department determined, based on ambient air modeling that the impact from this permitting action will be minor. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department has conducted a private property taking and damaging assessment and has determined there are no taking or damaging implications.

VIII. Environmental Assessment

An environmental assessment was not required for this permit action because it is considered an administrative action.

Permit Analysis Prepared By: Carson Coate
Date: 4/14/03